

PlugIn-Concept –
Open To Everything



IPEmotion PlugIn IPETRONIK LOG

User manual

Content

Content.....	2
1 Important information	4
1.1 Liability, Warranty, Copyright, License agreement.....	4
1.1.1 Limitation of liability	4
1.1.2 Warranty.....	4
1.1.3 Copyright and Duplication.....	4
1.1.4 Software license agreement	4
2 General information	6
2.1 About this manual	6
2.2 Version.....	6
2.2.1 User manual IPEmotion PlugIn IPETRONIK LOG.....	6
2.2.2 IPEmotion PlugIn IPETRONIK LOG	6
2.2.3 IPEmotion.....	6
2.3 Legend of the used icons	6
2.4 Support	7
2.5 Related documentations.....	7
2.5.1 IPEmotion.....	7
2.5.2 Manual MAL development	7
2.5.3 Logger manual	7
2.6 Documentation feedback.....	8
3 Introduction	10
4 Setting up and removing	12
4.1 System requirements.....	12
4.1.1 Hardware.....	12
4.1.2 Platforms.....	12
4.2 Installing IPEmotion PlugIn IPETRONIK LOG	13
4.3 Uninstalling IPEmotion PlugIn IPETRONIK LOG	17
5 Working with IPEmotion PlugIn IPETRONIK LOG	19
5.1 Defining general settings	19
5.2 Defining components.....	26
5.2.1 Defining additional components.....	27
M-LOG and S-LOG	27
M-LOG (6 CAN – 2 LIN).....	33
FLEETlog	33

Import function	34
5.3 Defining channels	35
5.3.1 CAN input "IPETRONIK CAN" and "Standard CAN"	35
Status	35
CAN channel	36
5.3.2 COM-2 connector "COM-2"	38
GPS	38
5.3.3 Data processing "Local calculations"	39
Calculation	39
5.3.4 Data processing "Statistic"	40
Classification	40

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Products, accessories and services have a 12 months warranty.

All product data, specifications, drawings, etc., correspond to the current condition of the indicated creation date. For the purpose of optimizing technical processes and production, some details of our modules and accessory components may be modified at any time without prior notification.

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2 General information

2.1 About this manual

The manual *IPEmotion PlugIn IPETRONIK LOG* describes the structure of the PlugIn and how to use the features for configuring devices, which are based on the IPETRONIK CAN driver, in IPEmotion, taking acquisitions and managing and analyzing the resulting data.

Please read the manual *IPEmotion PlugIn IPETRONIK LOG* carefully to get to know the operating and to learn more about the functions and special features. This manual also contains information for installing and removing the software.

2.2 Version

2.2.1 User manual IPEmotion PlugIn IPETRONIK LOG

This manual has the version number 01.03.

2.2.2 IPEmotion PlugIn IPETRONIK LOG

The descriptions in this documentation refer to the current release with the version number 03.20.

2.2.3 IPEmotion

The descriptions in this documentation refer to the current release with the version number 01.03.



The PlugIn requires at least IPEmotion V01.00 on your computer.

2.3 Legend of the used icons



Tip

This icon indicates a useful tip that facilitates the application of the software.



Information

This icon indicates additional information for a better understanding.



Attention!

This icon indicates important information to avoid potential error messages.

2.4 Support

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IPETRONIK Verwaltungs GmbH Baden-Baden is an individually liable society, registry court Mannheim HRB No. 202089
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Technical support and product information

www.ipetronik.com e-mail: support@ipetronik.com

2.5 Related documentations

2.5.1 IPEmotion

The documentation IPEmotion.pdf provides you with a description and useful information related to IPEmotion. This documentation is stored in the following standard language dependent directory: C:\Programs\IPETRONIK\IPEmotion Vxx.xx.xx\Help.

2.5.2 Manual MAL development

The documentation MAL development.pdf provides you with a description and useful information related to the use of the interface with plug-in components and IPEmotion.

2.5.3 Logger manual

The documentation Logger_Manual.pdf provides you with a description and useful information related to the IPETRONIK M- and S-LOG devices.

2.6 Documentation feedback

At IPETRONIK, the technical publications team strives to produce documentations of the highest quality and values your feedback as a reader and user. If you have any comments or suggestions regarding our product manuals, contact us under support@ipetronik.com.

Please inform us about the following points:

-  Version number (Select *Options* → *PlugIns* from the menu to display the version number.),
-  Name of the guide,
-  Page number or section title,
-  Brief description of the content (e.g. inaccurate instructions, grammatical errors, or information that require clarification),
-  Any suggestions for a general documentation improvement.

3 Introduction

The IPETRONIK LOG PlugIn offers you the ability to use M-, S-LOG, and FLEETlog devices of IPETRONIK within IPEmotion.

The systems of the IPETRONIK LOG System are separated into the following three groups according to their functionality:

 M-LOG

 S-LOG

 FLEETlog

Each single system of loggers contains different devices, which can be used for acquiring data. Each device is an independent acquisition system and can be used as a stand-alone devices, as well as, in combination with other devices in a CAN bus network. The current IPEmotion PlugIn IPETRONIK LOG version offers the following devices (they are listed accordingly to the above system classification):

 M-LOG:

-  M-LOG (2 CAN)
-  M-LOG (4 CAN)
-  M-LOG (8 CAN)
-  M-LOG (6 CAN - 2 LIN)
-  M-LOG (8 CAN - 4 LIN)
-  M-LOG (4 CAN - 2 ETH)
-  M-LOG (8 CAN - 2 ETH)
-  M-LOG (6 CAN - 2 LIN – 2 ETH)
-  M-LOG (4 CAN - 2 ETH – 1 DIG I/O)

 S-LOG:

-  S-LOG (2 CAN)
-  S-LOG (4 CAN)
-  S-LOG (8 CAN)
-  S-LOG (6 CAN - 2 LIN)

FLEETlog:

 FLEETlog basic (4 CAN)

 FLEETlog WAN (4 CAN)

Please note that FLEETlog basic does not support a connection by using WiFi and modem and a use of a GPS device is not possible!

Each single device provides additional components, as well as, a variety of channels. The following chapter 5 shows an overview about the device-specific components and their configuration.



Please find detailed information about the M- and S-LOG devices of IPETRONIK in the documentation Logger_Manual.

4 Setting up and removing

4.1 System requirements

The minimum hardware and platform requirements for the application of the IPEmotion PlugIn IPETRONIK LOG are outlined below.

4.1.1 Hardware

The minimum hardware requirements correspond to those of IPEmotion.

4.1.2 Platforms

The IPEmotion PlugIn IPETRONIK LOG can be run under the following operating systems:

-  Windows XP (32 Bit),
-  Windows Vista (32 Bit).

4.2 Installing IPEmotion PlugIn IPETRONIK LOG

The following chapter guides you through the installation process of the IPETRONIK LOG PlugIn.



IPEmotion PlugIn IPETRONIK LOG needs administrator rights during the installation. For working with the PlugIn you need at least limited user's or default user's rights (Vista).

The installation of IPEmotion PlugIn IPETRONIK LOG is based on an installation wizard that guides you through the setup process step by step. You can start the installation wizard from the USB flash drive or, if you have downloaded the setup program from the IPEmotion forum at www.ipemotion.com, from the setup file itself.

To install IPEmotion PlugIn IPETRONIK LOG:

1. Start the installation wizard from the USB flash drive or from the setup file.



USB flash drive: Connect the USB flash drive to the USB port of your computer and follow the instructions of the installation wizard.

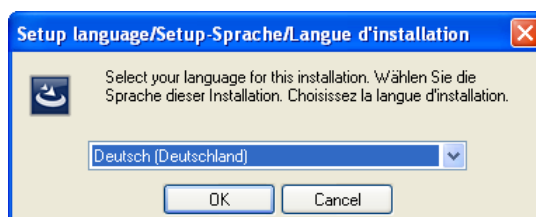


Setup file: Browse the location of the setup file and double-click **IPEmotion PlugIn IPETRONIK LOG.exe** to start the installation wizard.



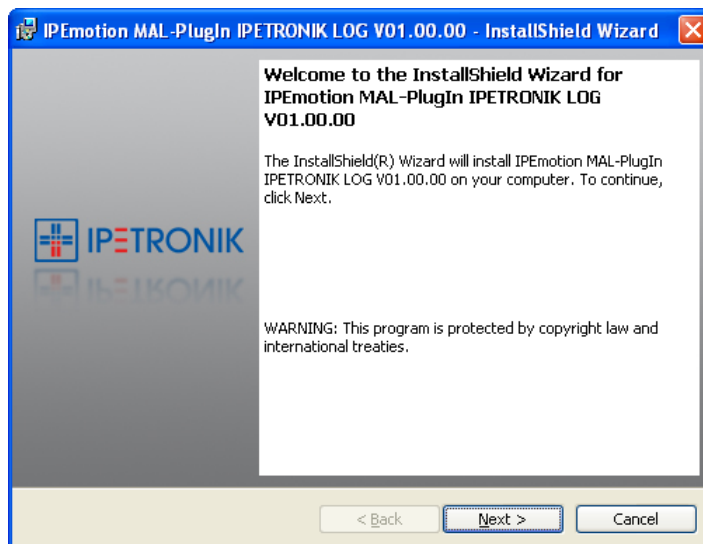
*Depending on the used PC operating system, a security warning appears. Click **Run** to start the installation wizard.*

2. **Setup language/Setup-Sprache/Langue d'installation:** Select the language for the installation process. You can choose between the languages German (Germany), English (USA), and French (France).



Click **OK** to start the IPETRONIK LOG installation wizard.

3. Welcome screen: This is the first screen in the IPEmotion PlugIn IPETRONIK LOG installation wizard.



Click **Next** to continue.

4. Destination folder:

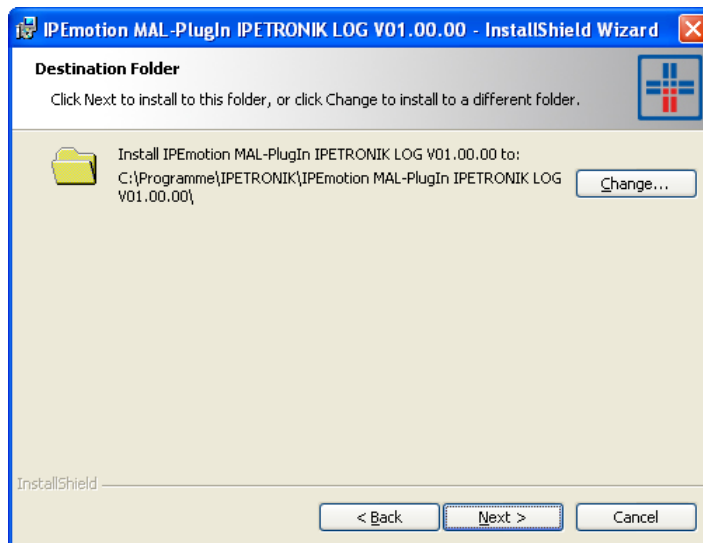


Due to the security model of Microsoft Corporation related to .NET applications, the installation of IPEmotion PlugIn IPETRONIK LOG on a local drive is recommended.



According to the Microsoft conformance guidelines for Windows applications the files are installed to the default locations that are specific to the operating system and language.

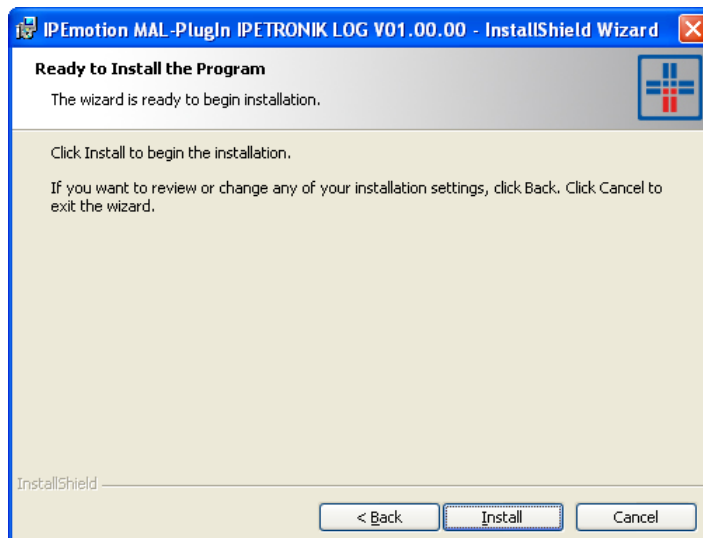
Accept the default installation location for IPEmotion PlugIn IPETRONIK LOG. To select another location click **Change**.



After you have specified the location for the installation, click **OK** to return to the **Destination folder** screen.

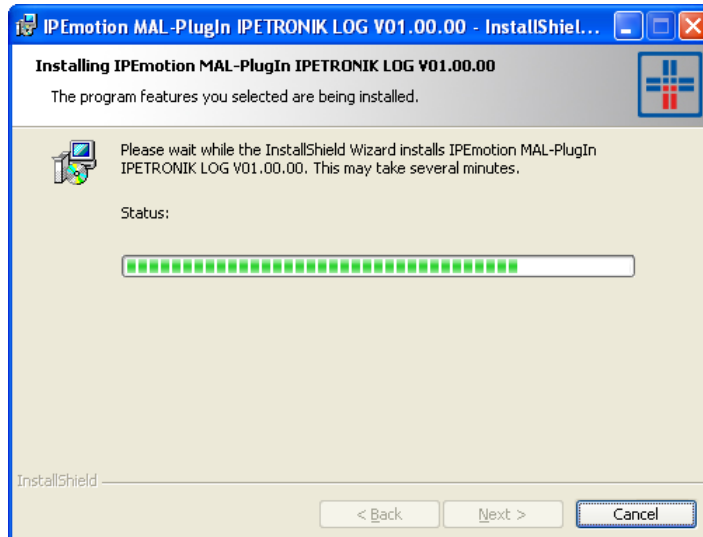
Click **Next** to continue.

5. Ready to install the program: This screen indicates that IPEmotion PlugIn IPETRONIK LOG is ready to install.

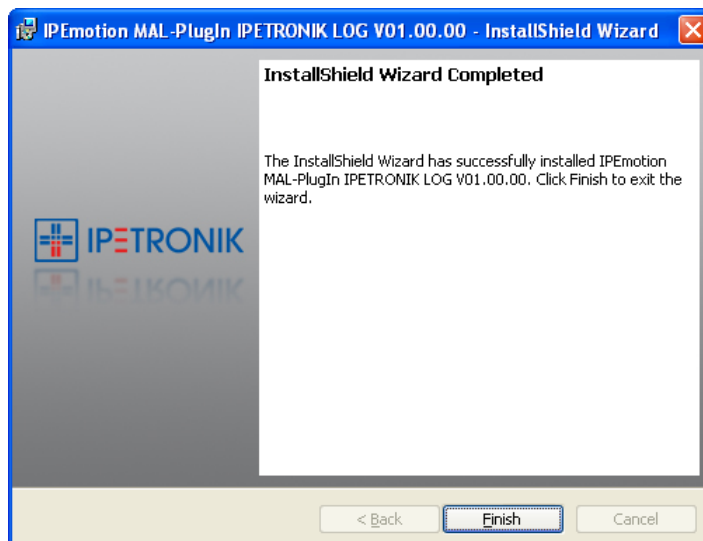


Click **Install** to start the installation.

6. Installing: A progress bar is shown during the installation process.



7. InstallShield Wizard Completed: After the successful installation, the following screen is shown.



Click **Finish** to exit the installation wizard.



A Windows-Silent-Setup cannot run other setups in silent mode, the plugin must therefore be installed as silent, too:

Setup IPEmotion PlugIn IPETRONIK LOG.exe /S /v/qn

LOGGER plugin setup copies LOG2PC-Core into Temp directory and installs LOG2PC-Core in Silent mode, which must also be installed separately:
Setup LOG2PC Core.exe /S /v/qn

4.3 Uninstalling IPEmotion PlugIn IPETRONIK LOG

The following chapter shows the deinstallation process of IPEmotion PlugIn IPETRONIK LOG.

For removing IPEmotion PlugIn IPETRONIK LOG you have two possibilities:

-  The option **Remove** of the IPEmotion PlugIn IPETRONIK LOG installation program
-  The option **Add or Remove Programs** for IPEmotion PlugIn IPETRONIK LOG in the Control Panel.

With both methods you can remove files, folders and registry entries from your computer, which has been created during the installation.

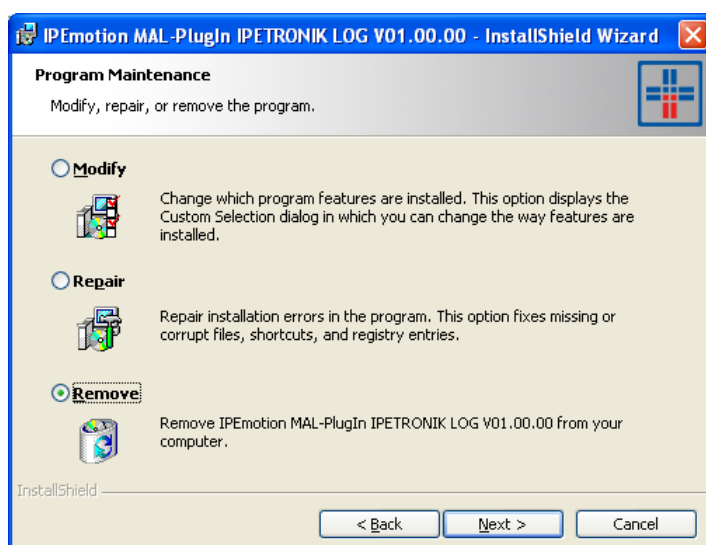
Removing IPEmotion PlugIn IPETRONIK LOG with the installation program

To do so, proceed as follows:

1. Click in the menu **Start** on your computer on **Settings** and then **Control Panel**.
2. Double-click in the **Control Panel** on **Add or Remove Programs**.
3. Select from the program list the entry **IPEmotion PlugIn IPETRONIK LOG** and click **Change** to start the installation wizard.

Click **Next** to advance to the **Program maintenance** screen.

4. Program maintenance: This screen allows you to modify, repair or remove IPEmotion PlugIn IPETRONIK LOG. Select **Remove** and click **Next** to continue.



5. Remove the program: This screen indicates that your installation is now ready to remove. Click **Remove** to start the removing process.

6. Uninstalling: A progress bar is shown during the uninstalling process.

7. InstallShield Wizard Completed: This screen is shown after the successful deinstallation. Click **Finish** to exit the installation wizard.

After removal, IPEmotion PlugIn IPETRONIK LOG is no longer indicated in the program list.

Removing IPEmotion PlugIn IPETRONIK LOG with the deinstallation function of the Control Panel

To do so, proceed as follows:

1. Click in the menu **Start** on your computer on **Settings** and then **Control Panel**.
2. Double-click in the **Control Panel** on **Add or Remove Programs**.
3. Select from the program list the entry **IPEmotion PlugIn IPETRONIK LOG** and click **Remove** to start the installation wizard.
4. Click **Yes** to start the deinstallation.
5. A progress bar is shown during the uninstalling process.

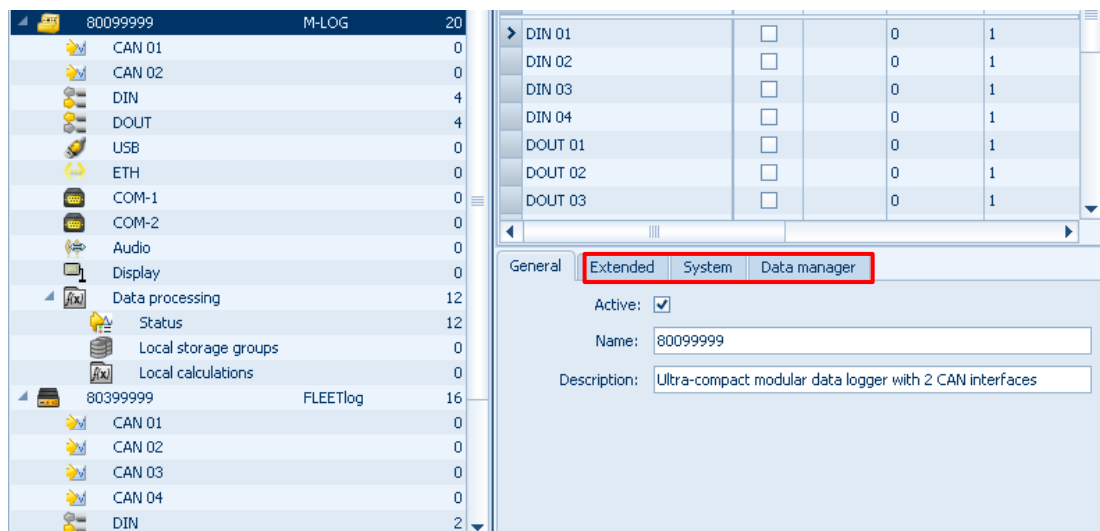
After the successful removal of IPEmotion PlugIn IPETRONIK LOG, the program has been removed from your computer and is no longer indicated in the program list.

5 Working with IPEmotion PlugIn IPETRONIK LOG

The following chapter offers an overview of the available commands and their functions. In addition, it is shown how to use the IPETRONIK LOG devices and the software IPEmotion for configuring and acquiring data, as well as, managing and analyzing the acquired data.

5.1 Defining general settings

The main navigation tab **Signals** contains all available and connected systems with the respective type description and channels. Click on the button *Add system* or *Add component* to expand the configuration by further systems or components.



To define the general settings for the **system properties**, proceed as follows:



Please find detailed information about the functionality and meaning of the following IPEmotion parameters in the IPETRONIK documentation IPEmotion: General.

 Select in the left tree view the desired system. You can find the **Extended** tab in the window of the configuration dialog. You can set the following configuration definitions:



Front number

The front number defines the last digits of the device number. It refers to the last five digits of the serial number by default. The serial number is mandatory for detecting, using, and distinguishing the device from others within IPEmotion. The serial number is composed of the front number and the device type and can generally be found at the back of the device or is detected automatically in IPEmotion.

 TESTdrive version

The TESTdrive version shows the current version of the TESTdrive software.

 Additional file

Define an additional file for the export.

 The **System** tab offers the following configuration possibilities: Switch-on condition (WakeonCan)

Activate or deactivate the Wake on Can function and define the switching-on of the logger due to data traffic on the bus.

 Timeout

The timeout defines the seconds to send an alternate value if no message is received on the bus.

 New measuring file

Activate or deactivate the use of a new measuring file number, which defines the beginning for the serial data numeration.

 Start with number

Define the number for beginning the serial numeration.

 Follow-up time

The follow-up time defines the extension of acquiring data in the acquisition mode by x seconds. The minimum and standard value is set to 10 s.

 COMgate switch-on condition Cyclical data saving By using the **Data manager** tab you have the ability to select the following properties: Data remote transmission

Activate or deactivate transmitting the acquired data.

 Compress files

Activate or deactivate creating a zip file. Due to a smaller file size, you can use a safe and fast data transfer and an optimum utilization of the memory space.



Split files

Activate or deactivate the partitioning of the acquisition file into smaller files of 500 kB each.



Take measuring file into configuration

Activate or deactivate the integration of the configuration file '.isf' into the acquisition file and allow a better assignation and analysis of the data to the used configuration.



Take log file into configuration

Activate or deactivate the LOG file integration into the measurement file.



Use ping

By using the **Configuration** button you have the ability to open the *Data transfer configuration* dialog and to define the following settings:

The **General** tab offers the following configuration possibilities:



Emergency switch-off after

The emergency switch-off defines the maximum time of the data transfer in min/h. After the lapse of the predefined time, a forced disconnection is activated, e.g. due to a bad transferring quality.



File encoding

Activate or deactivate the password protected locking of the created zip file.



Password – File encoding

Define a user-specific password for the zip file.



FTP upload

Activate or deactivate the use of the FTP server for the data transfer and storage.



Time synchronization via SNTP

Activate or deactivate the use of the time synchronization and define the SNTP server IP address. The SNTP server IP (Simple Network Time Protocol) defines the local time server for the automatic setting of the logger system time accordingly to the time of the used system.



By using the **FTP server** tab you have the ability to select the following properties:

 Server name

The server name address defines the FTP server name for the data transfer to the FTP server.

 IP address

The server IP address defines the FTP server address for the data transfer to the FTP server.

 User name

The user name defines the set user name for the data transfer to the FTP server.

 Password

The password defines the required password for using the FTP connection for the data transfer to the FTP server.

 Directory

The directory defines the location for the data transfer and storage on the FTP server.

The **Media selection** tab offers the following possibilities for transferring data:

 LAN/WiFi

By using the **LAN/WIFI** tab you can define the following settings:

 Get IP address automatically

Activate or deactivate the DHCP function (Dynamic Host Configuration Protocol) for the automatic assignation of the IP address, sub net mask and standard gateway.

 IP address

The IP address defines the static system IP address for the data transfer.

 Sub net mask

The sub net mask defines the net address, which is also used by the communication partner.

 Standard gateway

The standard gateway defines the address of a potential router between the communication partners.



If you activated the "Use of DHCP" function, the IP address, sub net mask and standard gateway are automatically assigned.



Preferred DNS server and Alternative DNS server

Define the server for the name conversion.



This function is only required if the FTP server is identified by using a name. In this case, the DNS server converts the name into an IP address. If the FTP server is directly identified by using the IP address, the entry of the DNS server is not required.



Speed and duplex mode

The media type defines the speed of the interface connection.



Modem

By using the **Modem** tab you can define the following settings:



Model

The modem defines the used connection on the logger for the data transfer.



PIN code

The PIN defines the PIN of the used SIM card.



Authentication

Activate or deactivate the authentication. The authentication is provider dependent and defines the user identity check depending on the used SIM card.



User name

The user name is provider dependent and defines the set user name depending on the used SIM card.



Password

The password is provider dependent and defines the required password for using the connection depending on the used SIM card.



Access point (APN)

The access point name is provider dependent and defines the name for the access point to a connection depending on the used SIM card.

 COMgate

By using the **COMgate transfer** tab you can define the following settings:

 Hotspot **Modem (3G/HSPA/UMTS)**

Activate the used connection on the logger for the data transfer.

The **COMgate – Modem** tab offers the following configuration possibilities:

 PIN code

The PIN defines the PIN of the used SIM card.

 Authentication

Activate or deactivate the authentication. The authentication is provider dependent and defines the user identity check depending on the used SIM card.

 User name

The user name is provider dependent and defines the set user name depending on the used SIM card.

 Password

The password is provider dependent and defines the required password for using the connection depending on the used SIM card.

 Access point (APN)

The access point name is provider dependent and defines the name for the access point to a connection depending on the used SIM card.

 Wireless LAN (WiFi)

Activate the used connection on the logger for the data transfer and select the preferred connection type (WiFi, 3G/HSPA/UMTS).

The **COMgate - WiFi** tab offers the following configuration possibilities:

 SSID **Security** **Password**

The password is provider dependent and defines the required password for using the connection depending on the used SIM card.

 Certificate DHCP

Activate or deactivate the DHCP function (Dynamic Host Configuration Protocol) for the automatic assignation of the IP address, sub net mask and standard gateway.

 IP address

The IP address defines the static system IP address for the data transfer.

 Sub net mask

The sub net mask defines the net address, which is also used by the communication partner.

 Standard gateway

The standard gateway defines the address of a potential router between the communication partners.

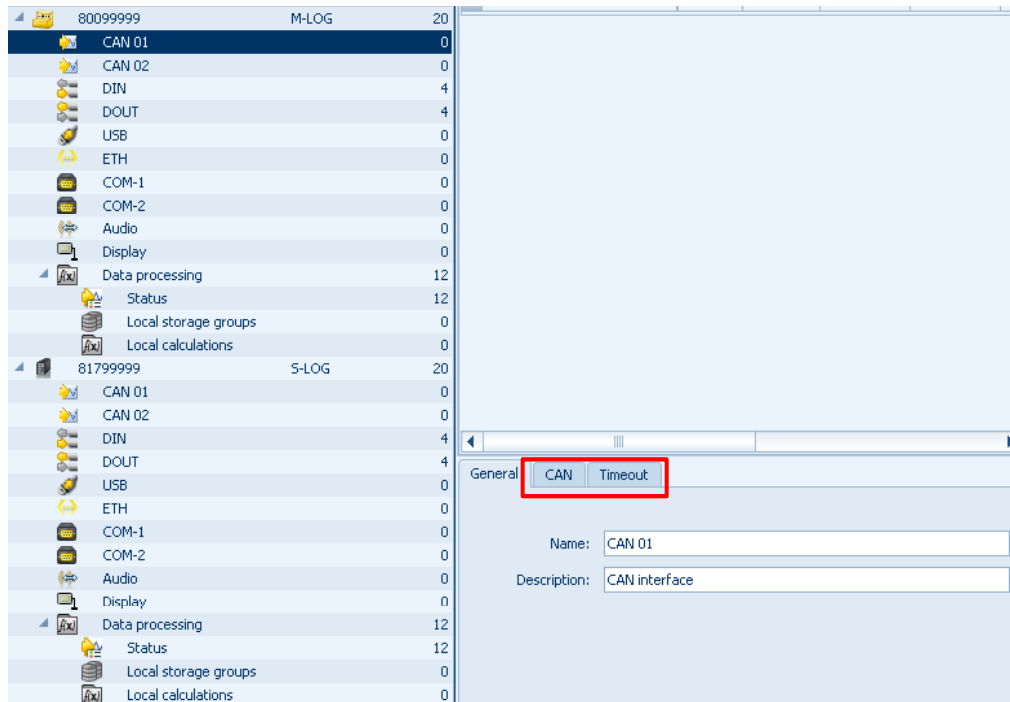


If you activated the "Use of DHCP" function, the IP address, sub net mask and standard gateway are automatically assigned.

 Preferred DNS server Alternative DNS server

5.2 Defining components

Each logger contains a variety of functions according different in- and outputs, connectors and the data processing in the logger.



To define the general settings for the **logger properties**, proceed as follows:



Please find detailed information about the functionality and meaning of the following IPEmotion parameters in the IPETRONIK documentation IPEmotion: General.

-  Select in the left tree view the desired component.

The **CAN** input of a logger offers additional definition possibilities.

-  You can find the **CAN** tab in the window of the configuration dialog. You have the ability to select the following properties:

-  Baud rate

The baud rate defines the transfer rate, which is valid for all system devices, for communicating to the devices.

-  29-bit identifier

Activate or deactivate the extension of the address range from 11 bit to 29 bit.



Acknowledge

Activate or deactivate the Acknowledge function to confirm the reception of a correct CAN message.



By using the **Timeout** tab you can activate or deactivate the use of a timeout. The timeout defines the seconds to send an alternate value if no message is received on the bus.

The **ETH input** of a logger can be defined within the ETH input tab.

The **LIN** input of a logger offers additional definition possibilities, too.



By using the **LIN** tab you have the ability to select the following properties:



Baud rate

The baud rate defines the transfer rate, which is valid for all system devices, for communicating to the devices.



LIN version

The LIN version shows the current version of the LIN bus.



By using the **Timeout** tab you can activate or deactivate the use of a timeout. The timeout defines the seconds to send an alternate value if no message is received on the bus.

5.2.1 Defining additional components

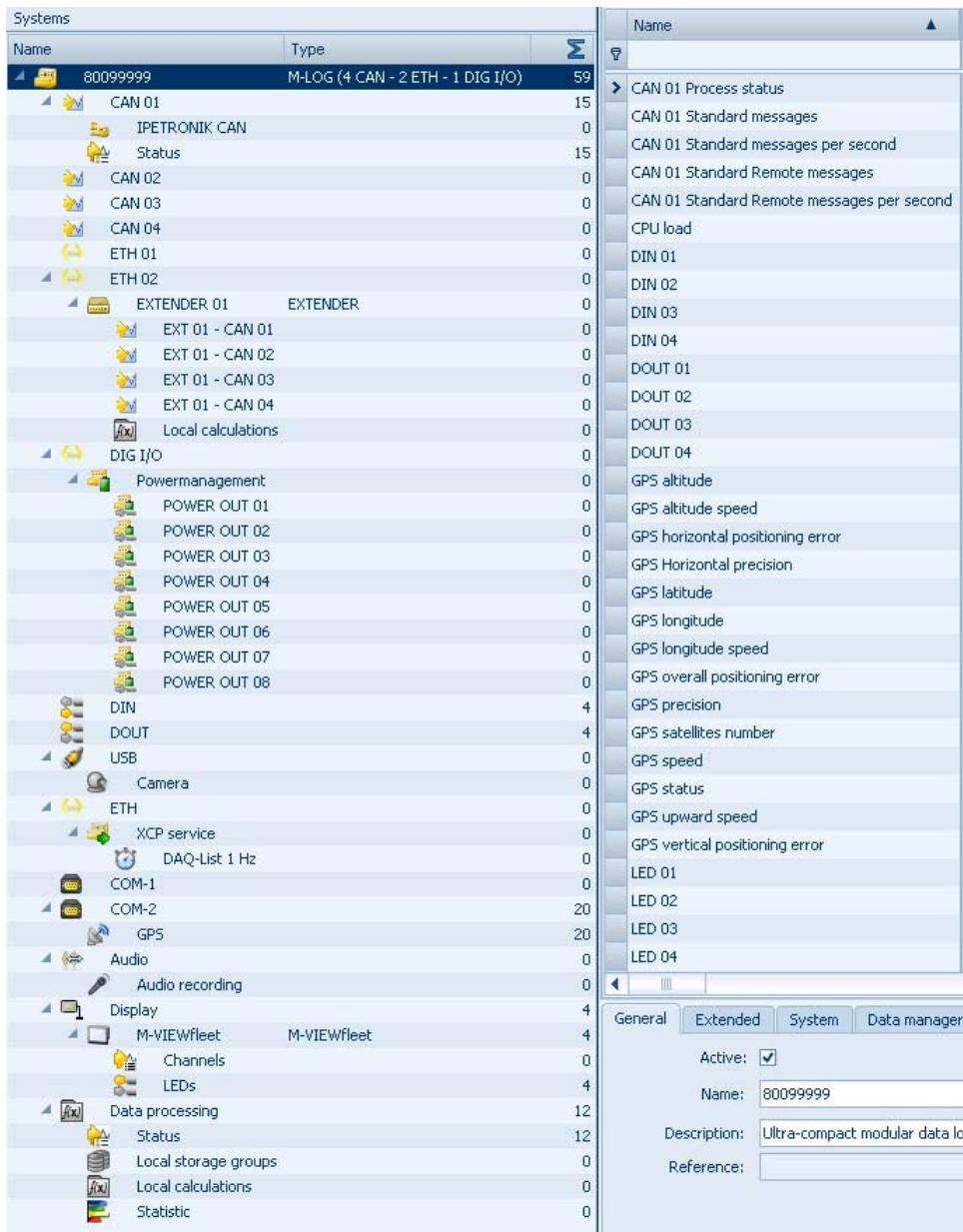
M-LOG and S-LOG

The following overview shows all possible component-dependent functionalities of the M- and S-LOG (2 CAN), (4 CAN), (8 CAN). The respective loggers only differ in the number of CAN inputs.

Click on the button *Add component* to expand the configuration by further components or functions.



Please find detailed information about the functionality and meaning of the following IPEmotion parameters in the IPETRONIK documentation IPEmotion: General.



Name	Type	Value
80099999	M-LOG (4 CAN - 2 ETH - 1 DIG I/O)	59
CAN 01		15
IPETRONIK CAN		0
Status		15
CAN 02		0
CAN 03		0
CAN 04		0
ETH 01		0
ETH 02		0
EXTENDER 01	EXTENDER	0
EXT 01 - CAN 01		0
EXT 01 - CAN 02		0
EXT 01 - CAN 03		0
EXT 01 - CAN 04		0
Local calculations		0
DIG I/O		0
Powermanagement		0
POWER OUT 01		0
POWER OUT 02		0
POWER OUT 03		0
POWER OUT 04		0
POWER OUT 05		0
POWER OUT 06		0
POWER OUT 07		0
POWER OUT 08		0
DIN		4
DOUT		4
USB		0
Camera		0
ETH		0
XCP service		0
DAQ-List 1 Hz		0
COM-1		0
COM-2		20
GPS		20
Audio		0
Audio recording		0
Display		4
M-VIEWfleet	M-VIEWfleet	4
Channels		0
LEDs		4
Data processing		12
Status		12
Local storage groups		0
Local calculations		0
Statistic		0

Name
CAN 01 Process status
CAN 01 Standard messages
CAN 01 Standard messages per second
CAN 01 Standard Remote messages
CAN 01 Standard Remote messages per second
CPU load
DIN 01
DIN 02
DIN 03
DIN 04
DOUT 01
DOUT 02
DOUT 03
DOUT 04
GPS altitude
GPS altitude speed
GPS horizontal positioning error
GPS Horizontal precision
GPS latitude
GPS longitude
GPS longitude speed
GPS overall positioning error
GPS precision
GPS satellites number
GPS speed
GPS status
GPS upward speed
GPS vertical positioning error
LED 01
LED 02
LED 03
LED 04

General Extended System Data manager

Active: ☒

Name: 80099999

Description: Ultra-compact modular data lo

Reference:

By using the **CAN input** tab you can define the following settings:

 Status

Define status channels for controlling the connected devices and the data transfer.

 IPETRONIK CAN

-  Voltage/current
-  Temperature
-  Pressure



Edge counting

Define in the window of the configuration dialog the following additional **settings**: Initialize devices, Synchronized mode, Automatic CAN ID placing.



Please find detailed information on the definition of IPETRONIK CAN in the IPETRONIK manual IPEmotion PlugIn IPETRONIK CAN.



Standard-CAN



CAN channel



CAN send



Channels



Please note that at least one channel must be activated on the logger for adding channels! This can be an input, output or a calculated channel.

Define in the window of the configuration dialog the following additional **settings**: Sending frequency, First CAN ID, Time stamp.

The *sending frequency* defines the updating rate for reading the data on the bus.

The *first CAN ID* defines the first identifier for sending the first message. You can convert the CAN ID into the decimal, hexadecimal or binary system.

First CAN ID: d



d – Decimal system



h – Hexadecimal system



b – Binary system

Activate or deactivate creating a time stamp channel. The *time stamp* defines a value, which assigns an event to a point of time.



Traffic recording



Traffic filter



ID-Trigger

Define in the window of the configuration dialog the following additional **settings**: Quick start. For the **Traffic filter** you can set the first and last CAN ID. The **ID-Trigger** contains the definition of the CAN-ID and the bytes 1-8.

Activate or deactivate the *Quick start*. Allow a quick initialization of the devices.

The *ID-Trigger* defines the trigger conditions for controlling the data acquisition. The ID-Trigger is set, if a message with the corresponding CAN-ID, e.g. 10, reaches a defined value on the corresponding byte, e.g. Byte 1 = 200.



The CAN input offers you the ability to import CANdb, A2L or IDF files.

Please find detailed information on the import function in the IPETRONIK documentation IPEmotion.

By using the extended **ETH 01/02** port tab you can define the following settings:

 Extender (4 CAN)

Define in the window of the configuration dialog the CAN parameters above and set local calculations.

For the **DIG I/O** port you can define the following settings:

 Powermanagement

 POWER OUT 01 - 08

Define for the POWER OUT channels in the window of the configuration dialog additional settings like the **Start, On, Off behavior**. The *Start behavior* tab contains the start delay. The *On behavior* tab contains the definitions Criterion, Only active at PowerGood, Minimum duration, Delay, Priority. The *Off behavior* tab contains the definitions Criterion, Off at PowerBad, Minimum duration.

By using the **USB** port tab you can define the following settings:

 Camera

 Video recording

 Image recording

Define for the **Video recording** in the window of the configuration dialog additional **settings** like the Resolution, Rate in images/s, and the Maximum recording time in s/min/h, as well as, the **Trigger**. For the **Image recording** you can define **settings** according the Resolution and set the **Trigger**.

The *Trigger* defines conditions for controlling the data acquisition. The trigger conditions can be deduced from acquired signals, as well as, from calculated channels.

By using the **ETH** port tab you can define the following settings:

 XCP service

 DAQ-List 1 Hz

 DAQ-List 10 Hz



DAQ-List 100 Hz



Please note that at least one channel must be activated on the logger for adding channels! This can be an input, output or a calculated channel.

Define in the window of the configuration dialog the following additional **XCP** settings IP-Address and IP-Port and the **extended** settings MAX_ODT and MAX_ODT_ENTRIES.

The *IP-Address* defines the IP address of the target system for the XCP data transfer.

The *IP-Port* defines the port of the target system for the XCP data transfer.

By using the **COM-2** port tab you can define the following settings:



GPS

Define in the window of the configuration dialog the following additional **settings**: Baud rate.

The *baud rate* defines the transfer rate for communicating to the devices.

By using the **Audio** port tab you can define the following settings:



Audio recording



Audio output

Define for the **Audio recording** in the window of the configuration dialog additional **settings** like the Bit rate and the Maximum recording time in s/min/h, as well as, the **Trigger**. For the **Audio output** you can define **settings** according the Audio file and an Immediate stop at stop trigger, as well as, set the **Trigger**.

The *bit rate* defines the amount of data, which is transferred within a specific time.

The audio file for the *audio output* can be stored in a user defined directory in the *.wav format.

Activate or deactivate the *Immediate stop at stop trigger* function for stopping the audio output immediately if a stop trigger is activated.

The *Trigger* defines conditions for controlling the data acquisition. The trigger conditions can be deduced from acquired signals, as well as, from calculated channels.

By using the **Display** port tab you can define the following settings:



M-VIEWfleet



M-VIEWgraph



M-VIEWvga

Define for the **M-VIEWfleet**, as well as, for the **M-VIEWgraph** in the window of the configuration dialog additional **Mode** settings like the scrolling mode and the list type. Activate or deactivate the following commands: Allow start and stop of the acquisition, Merge measurement files, Confirm shift/track at stop.

Connect the **M-VIEWvga** with the logger by using the standard monitor port and define the **buzzer** and the **monitor switch**.

By using the **Data processing** tab you can define the following settings:

 Status

 Local storage groups

 Storage group

 Ring buffer group

The **settings** for the **storage group** contain the Time stamp channel, NoValues and Save trigger channel. The **Triggering** contains definition possibilities according the Mode, the Pre- and Post-trigger duration in s and the Start- and Stop-trigger. The storage rate can be defined independently per channel.

The *storage rate* defines one rate for all signals for recording and storing the data.

Activate or deactivate creating a time stamp channel. The *time stamp channel* defines a channel in the corresponding storage group, which is configured for using a time stamp. The time stamp defines a value, which assigns an event to a point of time.

Activate or deactivate reading NoValues. A *NoValue* defines an invalid value. You can distinguish between a –Fullscale and an error in the dataset and ensure that the acquisition file has no gaps in the time channel.

Activate or deactivate the *Save trigger channel* function. This function defines the saving of the trigger status, as well as, additional information in a channel of the corresponding storage group.

The *Triggering* defines conditions for controlling the data acquisition. The trigger conditions can be deduced from acquired signals, as well as, from calculated channels.



Please note that at least one channel must be activated on the logger for adding channels! This can be an input, output or a calculated channel.

 Local calculations

 Calculation



The sampling rates of the calculations can be configured.

 **Statistic**



Classification

For the **Statistic** you can define **settings** according the Resetting behavior and the Working frequency and set the **Trigger**.

The *Working frequency* defines the speed of the statistic generation.

The **settings** for the **classification** contain the Mode. The **Trigger** contains definition possibilities according the Mode and Formula.

The *mode* defines the classification method.

The *Trigger* defines conditions for controlling the data acquisition. The trigger conditions can be deduced from acquired signals, as well as, from calculated channels.



Please note that at least one channel must be activated on the logger for adding channels! This can be an input, output or a calculated channel.

M-LOG (6 CAN – 2 LIN)

By using the **LIN input** tab you can define the following settings:

 **Traffic recording**



Traffic filter



ID-Trigger

Define in the window of the configuration dialog the following additional **settings**: Quick start. For the **Traffic filter** you can set the first and last CAN ID. The **ID-Trigger** contains the definition of the CAN-ID and the bytes 1-8.

Activate or deactivate the *Quick start*. Allow a quick initialization of the devices.

The *ID-Trigger* defines the trigger conditions for controlling the data acquisition. The ID-Trigger is set, if a message with the corresponding CAN-ID, e.g. 10, reaches a defined value on the corresponding byte, e.g. Byte 1 = 200.

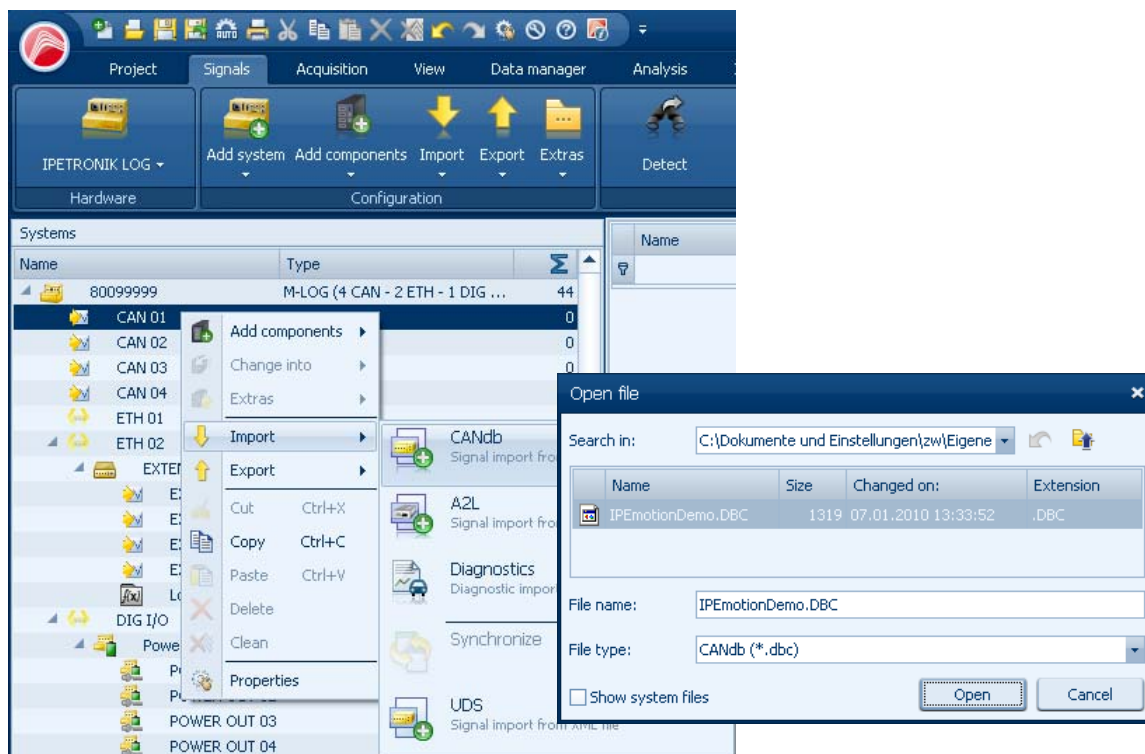
FLEETlog

FLEETlog differs between the two systems FLEETlog Basic and FLEETlog WAN.

The equipment and configuration possibilities of the FLEETlog Basic correspond to those of a M-/S-LOG (4 CAN). The FLEETlog WAN additionally offers the possibility to directly add the GPS component to the configuration.



Import function



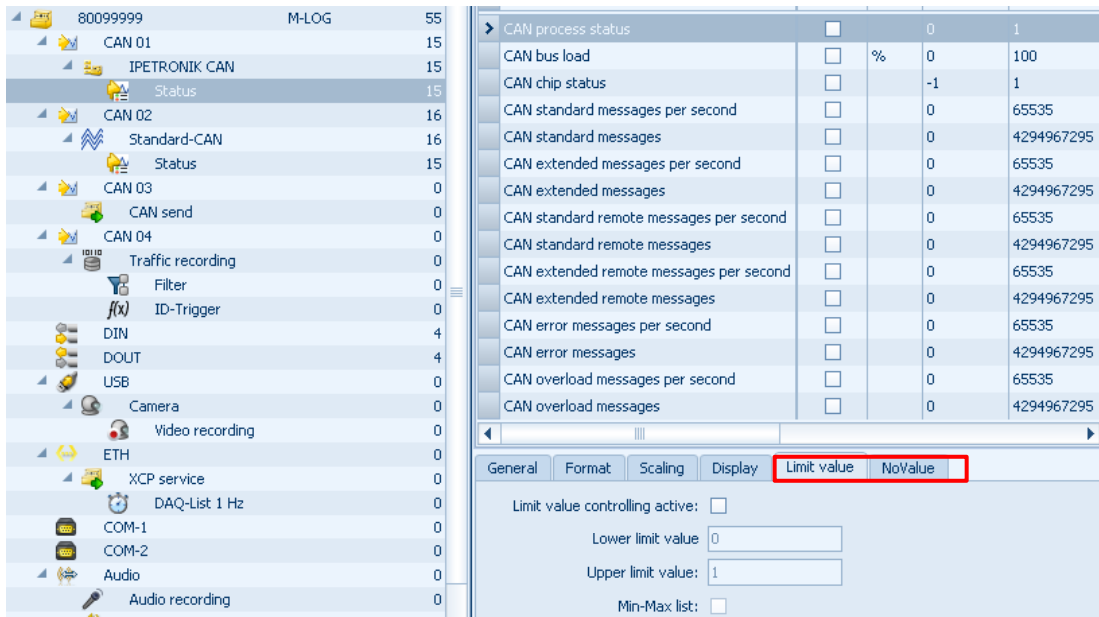
-  Select a free CAN input.
-  Select **Import** from the tab menu or by using the context menu (right mouse button).
-  Select the desired import and define the directory of a description file for opening it.
-  The current version offers the following import possibilities:
 -  CANdb (*.dbc file)
 -  A2L (*.A2L file)
 -  Diagnostics (*.idf file)
 -  UDS (*.xml file)
-  Select the desired signals / CAN signals / channels in the left window (Available channels).

-  Enter the signals by using Drag&Drop into the right window (Included channels).
-  Select OK for accepting the selection.

5.3 Defining channels

5.3.1 CAN input “IPETRONIK CAN” and “Standard CAN”

Status



CAN process status		☐	0	1
CAN bus load	☐	%	0	100
CAN chip status	☐		-1	1
CAN standard messages per second	☐		0	65535
CAN standard messages	☐		0	4294967295
CAN extended messages per second	☐		0	65535
CAN extended messages	☐		0	4294967295
CAN standard remote messages per second	☐		0	65535
CAN standard remote messages	☐		0	4294967295
CAN extended remote messages per second	☐		0	65535
CAN extended remote messages	☐		0	4294967295
CAN error messages per second	☐		0	65535
CAN error messages	☐		0	4294967295
CAN overload messages per second	☐		0	65535
CAN overload messages	☐		0	4294967295

General Format Scaling Display **Limit value** NoValue

Limit value controlling active: ☐

Lower limit value:

Upper limit value:

Min-Max list: ☐

To define the settings for the **channel properties**, proceed as follows:



Please find detailed information about the functionality and meaning of the following IPEmotion parameters in the IPETRONIK documentation IPEmotion: General, Format, Scaling, Display.

-  Select in the right window of the channel view the desired channel. You can find the **Limit value** tab in the window of the configuration dialog. You have the following configuration possibilities:

-  Limit value controlling active

Activate or deactivate controlling the limit values. A limit value defines a required upper and/or lower limit of a value.

-  Lower limit value

-  Upper limit value

-  Min-Max list

Activate or deactivate the use of the Min-Max list. Define the creation of a text file *.txt, where all defined global min and max values of the active channels are stored.

 By using the **NoValue** tab you have the ability to select the following properties:

 Value

A NoValue defines an invalid value. You can distinguish between a –Fullscale and an error in the dataset and ensure that the acquisition file has no gaps in the time channel.

 Timeout

A timeout is generated at reaching the defined NoValue.

CAN channel

Name	Type	Σ	Name	Active	Unit	Phys Min	Phys Max	Sensor Min	Sensor Max	Sampling rate
80099999	M-LOG	70	CAN channel	☒		0,0	65535,0	0	65535	1 Hz
IPETRONIK CAN		15	CAN process status	☐		0,00000	1,00000	0	1	1 Hz
Status		15	CAN bus load	☐	%	0,0	100,0	0	100	1 Hz
CAN 02		16	CAN chip status	☐		-1,000	1,000	-1	1	1 Hz
Standard-CAN		16	CAN standard messages per second	☐		0,0	65535,0	0	65535	1 Hz
Status		15	CAN standard messages	☐		0,0	4294967295,0	0	4294967295	1 Hz
CAN 03		0	CAN extended messages per second	☐		0,0	65535,0	0	65535	1 Hz
CAN 04		0	CAN extended messages	☐		0,0	4294967295,0	0	4294967295	1 Hz
DIN		4	CAN standard remote messages per second	☐		0,0	65535,0	0	65535	1 Hz
DOU1		4	CAN standard remote messages	☐		0,0	4294967295,0	0	4294967295	1 Hz
USB		0	CAN extended remote messages per second	☐		0,0	65535,0	0	65535	1 Hz
ETH		0	CAN extended remote messages	☐		0,0	4294967295,0	0	4294967295	1 Hz
WCP service		0	CAN error messages per second	☐		0,0	65535,0	0	65535	1 Hz
DAQ-List 10 Hz		0	CAN error messages	☐		0,0	4294967295,0	0	4294967295	1 Hz
COM-1		0	CAN overload messages per second	☐		0,0	65535,0	0	65535	1 Hz
COM-2		19	CAN overload messages	☐		0,0	4294967295,0	0	4294967295	1 Hz
GPS		19								
Audio		0								
Data processing		12								
Status		12								
Local storage groups		0								
Storage group 01		0								
Local calculations		0								
Statistic		0								
Classification		0								

General	Format	Scaling	Display	CAN	Limit value	NoValue
Active: ☐ Name: CAN channel Description: Standard CAN channel Sampling rate: 1 Hz						

To define the settings for the **channel properties**, proceed as follows:



Please find detailed information about the functionality and meaning of the following IPEmotion parameters in the IPETRONIK documentation IPEmotion: General, Format, Scaling, Display.

 Select in the right window of the channel view the desired channel. You can find the **CAN** tab in the window of the configuration dialog. You can set the following definitions:

 CAN ID

The CAN ID defines the identifier for sending the message. You can convert the CAN ID into the decimal, hexadecimal or binary system.

CAN-ID: 10 d

 d – Decimal system

 h – Hexadecimal system

 b – Binary system

 Start bit

The start bit defines the first bit in the message.

 Bit count

The bit count defines the number of bits in the message.

 Data format

The data format defines the message format. The standard format is "Intel".

 By using the **Limit value** tab you can define the following settings:

 Limit value controlling active

Activate or deactivate controlling the limit values. A limit value defines a required upper and/or lower limit of a value.

 Lower limit value

 Upper limit value

 Min-Max list

Activate or deactivate the use of the Min-Max list. Define the creation of a text file *.txt, where all defined global min and max values of the active channels are stored.

 By using the **NoValue** tab you have the ability to select the following properties:

 Value

A NoValue defines an invalid value. You can distinguish between a –Fullscale and an error in the dataset and ensure that the acquisition file has no gaps in the time channel.

 Timeout

A timeout is generated at reaching the defined NoValue.

5.3.2 COM-2 connector “COM-2”

GPS

Name	Type	Σ	Name	Active	Unit	Phys Min	Phys Max	Sensor Min	Sensor Max	Sampling rate
80099999	M-LOG	70	GPS status	☒		0,00000	1,00000	0	1	1 Hz
CAN 01		15	GPS latitude	☐	rad	-3,4E+38	3,4E+38	0	10	1 Hz
IPETRONIK CAN		15	GPS longitude	☐	rad	-3,4E+38	3,4E+38	0	10	1 Hz
Status		15	GPS speed	☐	m/s	-3,4E+38	3,4E+38	0	10	1 Hz
CAN 02		16	GPS altitude	☐	m	-3,4E+38	3,4E+38	0	10	1 Hz
Standard-CAN		16	GPS satellites number	☐		-3,4E+38	3,4E+38	0	10	1 Hz
Status		15	GPS precision	☐	m	-3,4E+38	3,4E+38	0	10	1 Hz
CAN 03		0	GPS longitude speed	☐	m/s	-3,4E+38	3,4E+38	0	10	1 Hz
CAN 04		0	GPS altitude speed	☐	m/s	-3,4E+38	3,4E+38	0	10	1 Hz
DIN		4	GPS speed up	☐	m/s	-3,4E+38	3,4E+38	0	10	1 Hz
DOOUT		4	GPS horizontal positioning error	☐	m	-3,4E+38	3,4E+38	0	10	1 Hz
USB		0	GPS vertical positioning error	☐	m	-3,4E+38	3,4E+38	0	10	1 Hz
ETH		0	GPS overall positioning error	☐	m	-3,4E+38	3,4E+38	0	10	1 Hz
XCP service		0	UTC day	☐		0,0000	31,0000	0	31	1 Hz
DAQ-List 10 Hz		0	UTC month	☐		0,0000	12,0000	0	12	1 Hz
COM-1		0	UTC year	☐		1970,000	2099,000	1970	2099	1 Hz
COM-2		19	UTC hour	☐		0,0000	24,0000	0	24	1 Hz
GPS		19	UTC minute	☐		0,0000	60,0000	0	60	1 Hz
Audio		0	UTC second	☐		-3,4E+38	3,4E+38	0	10	1 Hz
Data processing		12								
Status		12								
Local storage groups		0								
Storage group 01		0								
Local calculations		0								
Statistic		0								
Classification		0								

General Format Scaling Display **Limit value** NoValue

Active: ☐
 Name: GPS status
 Description: Status
 Sampling rate: 1 Hz

To define the settings for the **channel properties**, proceed as follows:



Please find detailed information about the functionality and meaning of the following IPEmotion parameters in the IPETRONIK documentation IPEmotion: General, Format, Scaling, Display.

Select in the right window of the channel view the desired channel. You can find the **Limit value** tab in the window of the configuration dialog. You have the following configuration possibilities:

 Limit value controlling active

Activate or deactivate controlling the limit values. A limit value defines a required upper and/or lower limit of a value.

 Lower limit value

 Upper limit value

 Min-Max list

Activate or deactivate the use of the Min-Max list. Define the creation of a text file *.txt, where all defined global min and max values of the active channels are stored.

 By using the **NoValue** tab you have the ability to select the following properties:

 Value

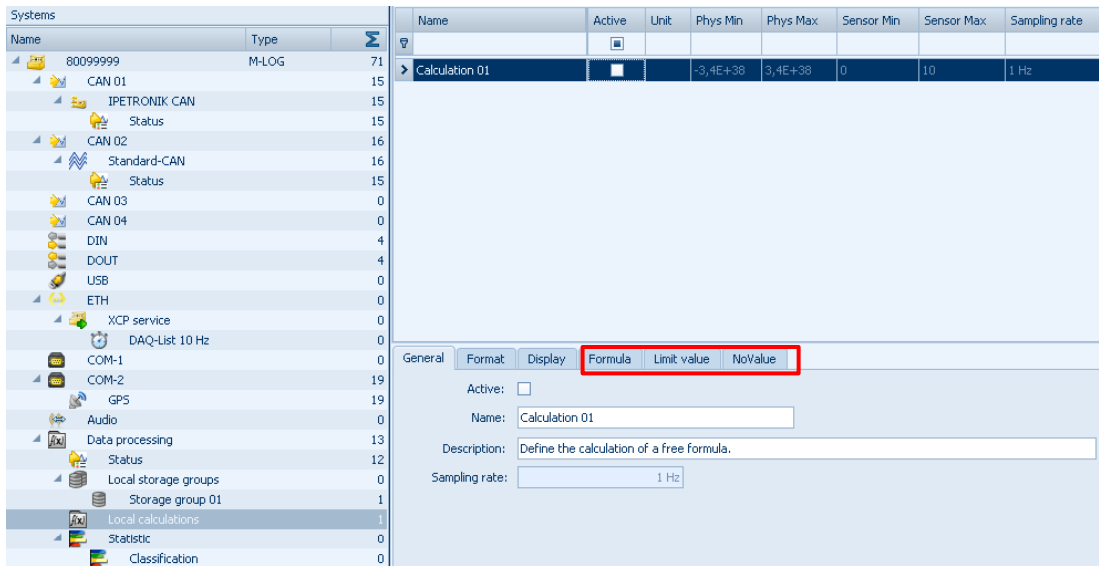
A NoValue defines an invalid value. You can distinguish between a –Fullscale and an error in the dataset and ensure that the acquisition file has no gaps in the time channel.

 Timeout

A timeout is generated at reaching the defined NoValue.

5.3.3 Data processing “Local calculations”

Calculation



The screenshot shows the IPEmotion software interface. On the left, the 'Systems' tree lists various data sources and processing steps. On the right, the 'Calculation 01' configuration dialog is open. The 'Formula' tab is selected, and the 'NoValue' tab is highlighted with a red box. The 'NoValue' tab contains settings for 'Active', 'Name', 'Description', and 'Sampling rate'.

To define the settings for the **channel properties**, proceed as follows:



Please find detailed information about the functionality and meaning of the following IPEmotion parameters in the IPETRONIK documentation IPEmotion: General, Format, Display.

 Select in the right window of the channel view the desired channel. You can find the **Formula** tab in the window of the configuration dialog. Define a user-specific formula for the calculation.

 By using the **Limit value** tab you can define the following settings:

 Limit value controlling active

Activate or deactivate controlling the limit values. A limit value defines a required upper and/or lower limit of a value.

 Lower limit value

 Upper limit value

 Min-Max list

Activate or deactivate the use of the Min-Max list. Define the creation of a text file *.txt, where all defined global min and max values of the active channels are stored.

 By using the **NoValue** tab you have the ability to select the following properties:

 Value

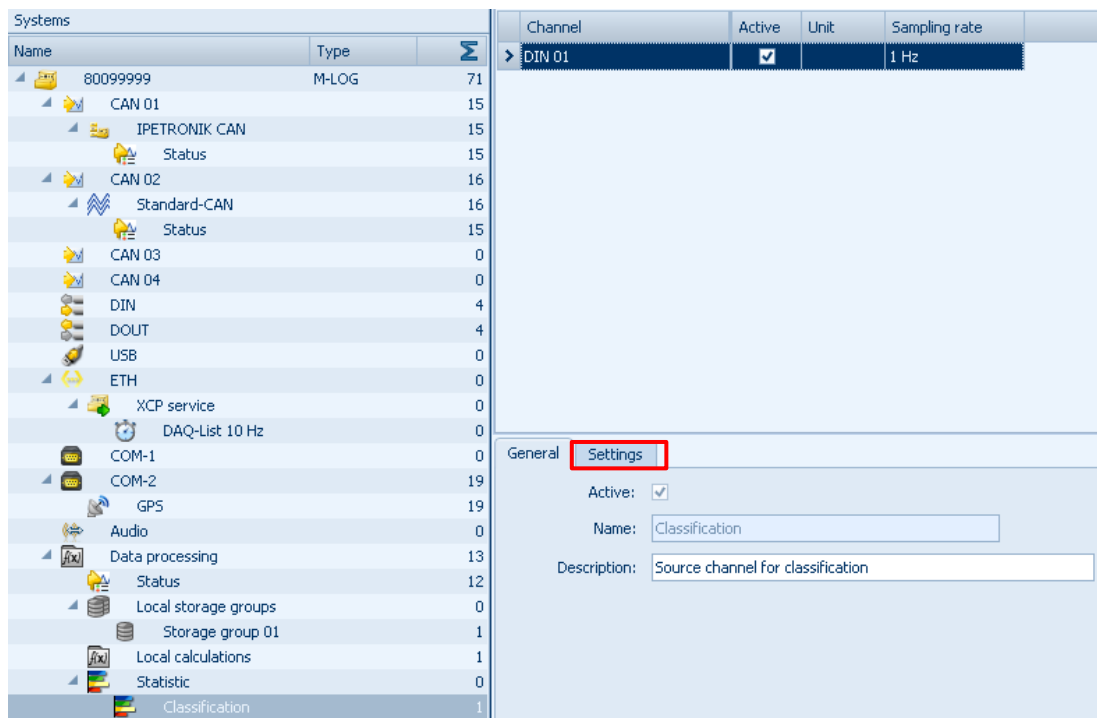
A NoValue defines an invalid value. You can distinguish between a –Fullscale and an error in the dataset and ensure that the acquisition file has no gaps in the time channel.

 Timeout

A timeout is generated at reaching the defined NoValue.

5.3.4 Data processing “Statistic”

Classification



The screenshot shows the IPEmotion software interface. On the left, the 'Systems' tree lists various channels and their types. The 'Classification' channel is highlighted at the bottom. On the right, the 'Classification' settings dialog is open, showing the 'Settings' tab. The 'Active' checkbox is checked, and the 'Name' field is set to 'Classification'. The 'Description' field is set to 'Source channel for classification'.

Channel	Active	Unit	Sampling rate
DIN 01	☒		1 Hz

Name	Type	Σ
80099999	M-LOG	71
CAN 01		15
IPETRONIK CAN		15
Status		15
CAN 02		16
Standard-CAN		16
Status		15
CAN 03		0
CAN 04		0
DIN		4
DOUT		4
USB		0
ETH		0
XCP service		0
DAQ-List 10 Hz		0
COM-1		0
COM-2		19
GPS		19
Audio		0
Data processing		13
Status		12
Local storage groups		0
Storage group 01		1
Local calculations		1
Statistic		0
Classification		1

General **Settings**

Active: ☒

Name:

Description:

To define the settings for the **channel properties**, proceed as follows:



Please find detailed information about the functionality and meaning of the following IPEmotion parameters in the IPETRONIK documentation IPEmotion: General.

 Select in the right window of the channel view the desired channel. You can find the **Settings** tab in the window of the configuration dialog. You have the following configuration possibilities:



Class count

The class count defines the number of classification sections of a channel.



Hysteresis

The hysteresis defines a difference between 2 values. This additional switching threshold is used for eliminating potential factors of interference, e.g. oscillations of electronic circuits. A hysteresis only allows a new counting if the value falls below or passes a defined value.



Lower limit

The lower limit defines the minimum limit value of the classification section of a channel.



Upper limit

The upper limit defines the maximum limit value of the classification section of a channel.